

REMARKS

Prior Art Cited by Examiner

Applicant respectfully submits that it would not have been obvious to a person of skill in the art to combine the prior art references cited by the Examiner, in the manners suggested by the Examiner. For example, Applicant submits that it would not have been obvious to a person of skill in the art to combine Killian (US Patent No. 5,479,630) and Moran et al. (US Patent No. 6,738,869) in the manner suggested by the Examiner.

Killian and Moran et al. relate to different types of data coherency problems, or at least to data coherency problems that result from different circumstances. The data coherency problems addressed by Killian arise from having multiple virtual addresses that map to the same physical address (col. 8, line 47 to col. 9, line 67), while the data coherency problems addressed by Moran et al. arise from having multiple processors accessing common data (col. 3, line 64 to col. 4, line 3). Killian relates to maintaining data coherency within the cache of a single processor, while Moran et al. relates to maintaining data coherency between the caches of multiple processors. Applicant respectfully submits that there would have been no motivation for a person of skill in the art to apply the teachings of Moran et al. to the hybrid cache of Killian.

Also, Applicant does not understand how the connections of James et al. (US Patent No. 6,421,745) can be considered "patch channels," as that phrase is used in this application. Accordingly, Applicant respectfully submits that James et al. does not disclose nor suggest patch channels.

Existing Claims

All existing claims, claims 1-47, have been canceled in the interest of making progress toward an allowance of claims.

New Claims

Claims 48 to 74 have been added, also in the interest of making progress toward an allowance of claims.

Applicant respectfully submits that each of the new independent claims, claims 48, 63 and 69, are patentable over the prior art references cited by the Examiner because of several limitations, which are neither disclosed nor suggested in the prior art, such as:

- a producer associated with the first virtual processor
- a first consumer associated with the first virtual processor
- a second consumer associated with the second virtual processor
- a patch channel matrix, the patch channel matrix comprising a first patch channel by which the producer communicates information to the first consumer and a second patch channel by which the producer communicates information to the second consumer
- the producer writing a first information to the first patch channel indicating that a change has been made to a translation in the guest OS page table for the first virtual address
- the first virtual processor executing while the first incoherency exists
- the producer writing a second information to the second patch channel indicating that a change has been made to a translation in the guest OS page table for the second virtual address
- the second virtual processor executing while the second incoherency exists
- the first consumer reads the first information from the first patch channel and, on occurrence of a first coherency event at which the first shadow page table is not to be incoherent with the guest OS page table with respect to the first virtual address, the first consumer eliminates the first incoherency, and
- the second consumer reads the second information from the second patch channel and, on occurrence of a second coherency event at which the second shadow page table is not to be incoherent with the guest OS page table with respect to the second virtual address, the second consumer eliminates the second incoherency.

Applicant also submits that each of the new dependent claims is patentable over the prior art references cited by the Examiner for the same reasons described above with respect to the new independent claims and because of additional limitations, which are neither disclosed nor suggested in the prior art, such as:


- the producer also provides to the first consumer a third information indicating a derived value based on the first modification and a fourth information that can be used to determine whether the third information remains valid, and the first consumer uses the third information to modify the first derived entry to make the first derived entry coherent with the first primary entry if the fourth information indicates that the third information is valid.

Conclusion

With this Amendment, Applicant seeks to cancel all existing claims, claims 1-47, and add new claims 48-74. Applicant respectfully submits that all the newly added claims are patentable for the reasons described above. Applicant requests reconsideration of this application.

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Respectfully submitted,



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